CHAPTER 5. INTERNAL USE SOFTWARE

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5.1 OVERVIEW.

5.1.1 Purpose. This chapter prescribes accounting policies and procedures for NASA internal use software (IUS). When accounting treatment for specific circumstances is not discussed in this chapter, reference should be made to Statements of Federal Financial Accounting Standards (SFFAS) No. 10, *Accounting for Internal Use Software*, for guidance.

5.1.2 Applicability. These requirements are applicable to NASA Headquarters and NASA Centers, including Component Facilities, and to NASA contractors, to the extent that the asset reporting requirements are incorporated in contracts. This chapter applies to all NASA owned and, NASA owned Contractor-held internal use software as well as internal use software acquired or furnished under NASA grants and cooperative agreements with educational institutions and non-profit organizations.

5.2 AUTHORITIES AND REFERENCES.

5.2.1 External Authorities.

A. Statement of Federal Financial Accounting Standard (SFFAS) No. 6, *Accounting for Property, Plant and Equipment* (as amended by SFFAS Numbers 14, 16, and 23)

B. Statement of Federal Financial Accounting Standard (SFFAS) No. 10, *Accounting for Internal use Software*

5.3 ROLES AND RESPONSIBILITIES.

5.3.1 Center Chief Financial Officer (CFO)/Deputy Chief Financial Officer (Finance) (DCFO)(F). The Center DCFO is responsible for:

A. Identifying actual costs to be capitalized for internal use software;

B. Maintaining financial records (including supporting documentation) for each software project in progress and operational;

C. Preparing and submitting monthly NASA Software Capitalization Cost Reports to Agency Office of the Chief Financial Officer (OCFO), Property Branch;

D. Posting the internal use software asset activity in the financial accounting system, as well as the calculation and reporting of depreciation of internal use software.

5.3.2 Agency OCFO, Property Branch. Is responsible for:

A. Reviewing the NASA Software Capitalization Cost Report submitted by the Centers for accuracy and supporting documentation.

B. Recording internal use software that is used at the agency level.

5.4 DEFINITIONS.

5.4.1 Internal Use Software. Internal use software is software that is purchased from commercial vendors "off-the-shelf," internally developed or contractor-developed solely to meet the entity's internal or operational needs. It is software that is:

A. Used to operate an entity's programs (i.e., financial and administrative software, including that used for project management);

B. Used to produce the entity's goods and to provide services (i.e., air traffic control and loan servicing); and

C. Developed or obtained for internal use and subsequently provided to other federal entities with or without reimbursement.

5.4.2 Bundled Software Products and Services. A suite of software products or services (i.e. training, maintenance, data conversion, reengineering, site licenses and rights to future upgrades and enhancements).

5.4.3 Commercial off-the-shelf (COTS) software. Software purchased, leased or licensed from a vendor and ready for use with little or no change.

5.4.4 Contractor Developed Software. Software designed, programmed, installed, and implemented by a NASA contractor, including new software and modifications of existing or purchased software without substantive NASA employee involvement other than contract monitoring.

5.4.5 Impaired Software. Software no longer expected to provide substantive service potential which will be removed from service, or software which has incurred a significant reduction in capability, function, or use (or a module thereof).

5.4.6 Integrated Software. Computer software integrated into and necessary to operate Property, Plant, and Equipment (PP&E), rather than a stand-alone application.

5.4.7 Internally Developed Software. Software developed by NASA employees, including new software and existing or purchased software being modified with or without the assistance of contractors.

5.4.8 Free Software. Software released to the public or other Federal agencies that advances scientific and technological knowledge but is not used in NASA's operations. The development of such software is consistent with NASA's mission, but is not acquired or constructed with the intention of being used, or being available for use by NASA.

5.4.9 Software. Application and operating system programs, procedures, rules and any associated documentation pertaining to the operation of a computer system or program.

5.4.10 Useful Life. The normal operating life in years, in terms of utility to NASA.

5.4.11 Software Life Cycle Phases. The phases through which a software application or information system passes, typically characterized as formulation, implementation, and operation, as defined below.

A. Formulation Phase. Consists of conceptual formulation of alternatives, evaluation and testing of alternatives, determination of existence of needed technology, and final selection of alternatives.

B. Implementation Phase. Consists of design (including configuration and interfaces), coding, installation of hardware, and testing (including parallel processing, if needed).

C. Operational Phase. Consists of data conversion, application maintenance, training, and deployment.

5.4.12 Data Conversion. Data Conversion includes conversion of existing data, reconciliation or balancing data, and the creation of new/additional data.

5.5 IDENTIFICATION.

5.5.1 If internal use software acquisition or development meets the capitalization criteria of $1,000,000 or more in cost and has an expected useful life of 5 years, its cost shall be tracked and the asset identified through the establishment of a unique WBS. NASA WBS asset attribute for software will be assigned in Metadata Manager (MdM) to capture the cost of software and for reporting purpose.

5.6 CAPITALIZATION CRITERIA.

5.6.1 Internal Use Software. Software must be capitalized when all of the following conditions are met:

A. Purchased commercially “off-the-shelf,” internally developed, or contractor-developed solely to meet NASA’s internal needs.

B. Operated in a stand-alone mode and is not integrated or necessary to operate hardware or equipment.

C. Used to operate NASA’s programs (i.e., financial and administrative software including that used for project management); or to support multiple NASA missions (i.e., communication software designed to support multiple missions). This would be software developed independently of a mission (i.e., not a part of the mission).

D. Total projected cost is $1,000,000 or more.

E. Expected useful life is 5 years.

5.6.2 Internal Use Software Phases.

A. NASA will expense all costs incurred during the Formulation Phase of the life cycle for internal use software as Research and Development (R&D) costs. NASA will also expense all costs during the Operational Phase, which begins when final acceptance testing has been successfully completed.

B. NASA will capitalize costs incurred during the software development (Implementation Phase) phase of the life cycle for internal use software. Internal use software's capitalized costs are accumulated as work in process until final acceptance testing has been successfully completed. Once completed, the costs are transferred to PP&E, with amortization expense recognized on a periodic basis. Software costs associated with terminated projects and or subprojects shall be expensed.

C. NASA shall not capitalize:

1. Software developed as part of a research effort (i.e. algorithm).

2. Software integrated into and necessary to operate a NASA asset. Such software should not be capitalized separately but as part of the asset in which it is integrated.

3. Software NASA does not own outright or for which NASA does not own a lease to operate (such as software provided through the Outsourcing Desktop Initiative for NASA (ODIN) contract).

4. Data conversion, maintenance, and training costs.

5. Costs incurred solely to repair a design flaw in software.

6. Costs incurred to develop "free software" to be released to the public or other Federal agencies for purposes of advancing scientific and technological knowledge.

5.7 VALUATION.

5.7.1 For internally developed software, capitalized cost should include the cost incurred during the software development stage. Such cost should be limited to cost incurred after:

A. Management authorizes and commits to a computer software project and believes that it is more likely than not that the project will be completed and the software will be used to perform the intended function with an estimated service life of 5 years.

B. The completion of conceptual formulation, design, and testing of possible software project alternatives (the preliminary design stage).

5.7.2 Capitalized costs include those for new software (i.e., salaries of programmers, systems analysts, project managers, and administrative personnel; associated employee benefits; outside consultants' fees; rent; and supplies) and documentation manuals.

5.7.3 For COTS software, capitalized cost should include the amount paid to the vendor for the software. For contractor-developed software, capitalized cost should include the amount paid to a contractor to design, program, install, and implement the software. Material internal cost incurred by the Federal entity to implement the COTS or contractor-developed software and otherwise make it ready for use should be capitalized.

5.7.4 Computer software that is integrated into and necessary to operate general PP&E, rather than perform an application, should be considered part of the PP&E of which it is an integral part and capitalized and depreciated accordingly (i.e., airport radar and computer-operated lathes). The aggregate cost of the hardware and software should be used to determine whether to capitalize or expense the costs.

5.7.5 With regard to costs incurred for enhancements to existing internal use software, the Federal Accounting Standards Advisory Board (FASAB) specifies the following in SFFAS No. 10:

A. The acquisition cost of enhancements to existing internal use software (and modules thereof) should be capitalized when it is more likely than not that they will result in significant additional capabilities.

B. The cost of minor enhancements resulting from ongoing systems maintenance should be expensed in the period incurred.

C. Costs incurred solely to repair a design flaw or to perform minor upgrades that may extend the useful life of the software without adding capabilities should be expensed.

5.7.6 Material expenditures that add capability or functionality are capitalized while expenditures that result in extending useful life are expensed.

5.7.7 Costs incurred after final acceptance testing has been successfully completed should be expensed. The likely types of costs that can be incurred during the Post-Implementation/Operational phase are associated with the following:

A. Operate the software, undertake preventive maintenance, and provide ongoing training for users;

B. Convert data from the old to the new system;

C. Undertake post-implementation review comparing asset usage with the original plan;

D. Track and accumulate lifecycle costs and compare it with the original plan. All data conversion costs incurred for internally developed, or COTS software should be expensed as incurred, including the cost to develop or obtain software that allows for access or conversion of existing data, reconciliation or balancing data, and the creation of new/additional data.

5.7.8 Software integrated into and necessary to operate an asset is to be capitalized as part of the asset in which it is integrated.

5.7.9 Modules of a software project are amortized when the module has been successfully tested. If a module is dependent on the completion of another module, amortization begins when both modules have been successfully tested.

5.7.10 The acquisition cost of enhancements to existing internal use software (and modules thereof) is capitalized when it is more likely than not that the enhancements will result in significant additional capabilities.

5.7.11 For software bundled products and services the capitalizable and non-capitalizable costs of the package are allocated among individual elements on the basis of a reasonable estimate of their relative fair values.

5.7.12 The standard establishes the following principles for expensing costs of internal use software:

A. Data Conversion. Data conversion costs incurred for internally developed, contractor-developed, or COTS software are expensed as incurred, including the cost to develop or obtain software that allows for access or conversion of existing data to the new software. Such costs may include the purging or cleansing of existing data, reconciliation or balancing of data, and the creation of new or additional data.

B. Training Costs. Training costs incurred for internally developed, contractor-developed, or COTS software are expensed as incurred, except training costs incurred to make the software initially implementable and ready for use. Training costs incurred to make the software initially implementable and ready for use will be added to the cost of the software and capitalized, if it meets the capitalization criteria.

C. Minor Enhancements. The cost of minor enhancements resulting from ongoing systems maintenance and costs incurred solely to repair a design flaw are expensed.

D. Minor Upgrades. The costs of minor upgrades that may extend the useful life of the software without adding capabilities are expensed.

5.7.13 For the accounting and reporting of software licenses, NASA has adopted the FASAB's suggestion in Paragraph 67 of SFFAS No. 10 that lease accounting concepts and the entity's policy for capitalization thresholds be applied. If the

license agreement meets one or more of the following criteria and NASA's software capitalization threshold, it is considered a capital lease:

A. The lease transfers ownership of the software to NASA by the end of the lease term.

B. The lease contains an option to purchase the leased software at a bargain price.

C. The lease term is equal to or greater than 75 percent of the estimated economic life of the leased software. This must be equal to or greater than the present value of the software license payments.

D. The present value of rental and other minimum lease payments, excluding that portion of the payments representing executory cost, equals or exceeds 90 percent of the fair value of the leased software. To evaluate this criterion, determine the purchase price of the software and multiply it by 90 percent. This amount must be equal to or greater than the present value of the software license payments (if it is a standard COTS various sources could be used to provide the list price for the software package).

E. Note: The last two criteria (C. and D.) are not applicable if the beginning of the lease term falls within the last 25 percent of the total estimated economic life of the leased PP&E. The rental of space from General Services Administration (GSA) does not qualify as leased PP&E subject to capitalization.

5.7.14 The following software costs must be captured for capitalization purposes:

A. Bundled Products and Services. Allocate the capitalizable and non-capitalizable cost of the package among the individual elements on the basis of a reasonable estimate of their relative fair values. For example, training, maintenance, or data conversion elements included in the package should be expensed; the software package, software implementation, installation and testing elements should be capitalized.

B. Contractor Developed Software. The amount paid to a contractor during the Implementation Phase, and material internal costs incurred by NASA to implement the software and otherwise make it ready for use, up through acceptance testing.

C. Internally Developed Software. The cost incurred through acceptance testing.

D. COTS Software. The amount paid to the vendor for the software (purchase or lease) and material internal costs incurred by NASA to implement the software and otherwise make it ready for use through acceptance testing.

5.7.15 Software Developed in Modules. Software developed in modules (including pilots) should be accounted for as follows:

A. If the modules are implemented and operated independently, the software shall be accounted for based on the cost and expected useful life of each module. The useful life of independently implemented software starts on the date the software becomes operational.

B. If the modules are inter-dependent, the costs and lifecycle shall be the combined cost and life of the modules, which must be implemented together.

5.7.16 Bulk Purchase. Bulk purchases of the same software acquired under the same contract shall be accounted for as a group. If the same software package is purchased under two or more contracts, costs shall be accounted for and thresholds applied separately. Software acquired through separate contracts shall be accounted for separately.

5.7.17 Software Licenses. Multi-year licenses are capitalized if the total projected cost is $1,000,000 or more, and the expected useful life of the software is 5 years.

5.7.18 Capital Lease Software. If the license agreement meets one or more or the following criteria stipulated below and meets NASA's software capitalization threshold, it is considered a capital lease.

A. The lease transfers ownership of the software to NASA by the end of the lease term.

B. The lease contains an option to purchase the leased software at a bargain price.

C. The lease term is equal to or greater than 75 percent of the estimated economic life of the leased software (i.e., useful life is 4 years and lease term is 3 or more years).

D. The present value of rental and other minimum lease payments, excluding that portion of the payments representing executory cost, equals or exceeds 90 percent of the fair value of the leased software. To evaluate this criterion, determine the purchase price of the software and multiply it by 90 percent. This amount must be equal to or greater than the present value of the software license payments (if it is a standard COTS various sources could be used to provide the list price for the software package).

E. Note: Annual lease/renewals are not considered capital leases.

5.7.19 Enhanced Software. Enhancement costs for existing software should be capitalized if the enhancement results in significant additional capability beyond that for which the software was originally intended, the total cost of the enhancement is $1,000,000 or more, and the expected useful life of the

enhanced software is 5 years. The capitalized cost will include the same types of cost discussed above in Section 5.7.15. Costs incurred solely to repair a design flaw or perform minor upgrades will not be capitalized. A significant additional capability is considered a capability not included in original software specifications and which costs $1,000,000 or more to develop (excluding all other updates to the software).

5.7.20 If software is being capitalized, but becomes unusable (impaired), this shall be brought to the attention of the Agency OCFO, Property Branch.

5.8 RECOGNITION.

5.8.1 NASA shall recognize Internal Use Software (IUS) as an asset when it meets the criteria for general PP&E and the capitalization threshold of $1,000,000 or more. The capitalized IUS will be amortized over a useful life of 5 years.

5.8.2 NASA will recognize and report monthly all losses from impaired software.

5.9 AMORTIZATION.

5.9.1 Internal Use Software that is capitalized pursuant to the SFFAS No. 10, Accounting for Internal Use Software, and requirements established in this chapter shall be amortized over the estimated useful life of 5 years.

5.10 DISPOSAL.

5.10.1 NASA will recognize disposals when software is determined to be obsolete or nonfunctional. NASA will not report fully depreciated software projects. Once the project is fully depreciated, Centers will no longer include those projects on the quarterly report. Please refer to Chapter 2, Section 2.9 of this Volume for more detailed discussion of disposal of general PP&E.

5.11 FINANCIAL CONTROLS.

5.11.1 General Ledger Accounts applicable to Internal Use Software.

Table 5-1 Internal Use Software Accounts and Titles

Account Number	Account Title
1830.1000	Internal Use Software
1832.1000	Asset Under Construction – IUS
1839.1000	Accumulated Depreciation on Internal Use Software